CLAIMS

1. Method to identify an interference source in a mobile radio network, where a received signal (**r**) consists of a wanted signal and a number of interference signals of which one is a dominating interference signal and where all signals includes a known training sequence (TK1,TK2,...), by estimating the carrier and subtracting this carrier from the received signal (**r**), forming a remaining interference signal (**s**) and correlating said interference signal (**s**) against known training sequences (TKj, j=0,1,2,...,7) resulting in a determined training sequence associated with the interfering signal, and finding an identification code (BCC) of a possible interference source (BS1) from said determined training sequence,

c h a r a c t e r i z e d in

determining a number of candidates (CA1,CA2,CA3) from said identification code (BCC), each of said candidates (CA1,CA2,CA3) corresponding with a certain cell and the frequencies (f_a, f_b, f_c; f_x, f_y, f_z; f_p, f_q) which is disturbed;
determining the timing offset (t1,t2,t3; t4,t5,t6; t7,t8; Fig 7) for the frequencies (f_a, f_b, f_c; f_x, f_y, f_z; f_p, f_q) used by said candidates;
investigating if one or more of these frequencies (f_a, f_b, f_c; f_x, f_y, f_z; f_p, f_q) have the same time offset (t_0) as the interference signal (**s**) resulting in that at least one candidate (CA3) with the best offset matching of its frequencies (f_x, f_y, f_z) in relation to other candidates (CA1,CA2) is identified as the interference source.

2. Method according to claim 1, c h a r a c t e r i z e d in that said forming a remaining interference signal (**s**) consists in
estimating (1,2) both the training sequence and the data of the received signal (**r**),
generating (3) a channel model (**h**) by using said estimation of the training sequence and the data, said channel model being used to estimate (4) the carrier,
subtracting (6) the estimated carrier from the received signal (**r**), leaving the remaining interference signal (**s**).

3. Method as claimed in claim 2, wherein said estimated carrier is produced by filtering (4) the estimated bits through the channel model (**h**) obtained by said channel estimation.

4. Method as claimed in claim 1, c h a r a c t e r i z e d in
determining the time offset (to) of the interfering signal (**s**),
determining the time offset (t1,t2,t3; t4,t5,t6; t7,t8; Fig 7) of a set (f_a,f_b,f_c; f_x,f_y,f_z; f_p,f_q; Fig 7) of frequencies from each of said candidates (CA1,CA2,CA3), and
comparing the time offset (t1,t2,t3; t4,t5,t6; t7,t8; Fig 7) of said frequency set (f_a,f_b,f_c; f_x,f_y,f_z; f_p,f_q; Fig 7) with the time offset (to) of the identified interferer (s), the candidate (CA3) having the frequencies which best match said frequency set being identified as the interference source.

5. Method as claimed in claim 1-3, where the serving cell uses a synchronization channel, c h a r a c t e r i z e d in that the step of investigating if one or more of these

signals have the same time offset as the interference signal **s** includes further following steps:
determining the time offset (to) of the interfered signal relative to the synchronisation channel,
measuring the offset for all signals on said candidate´s frequencies (f_a, f_b, f_c; f_x, f_y, f_z; f_p, f_q ;Fig 7) in relation to said synchronisation channel and if the offset so measured are the same for a number of said signals on certain frequencies (f_x, f_y, f_z , Fig 7) these signals are assumed to have the same origin and the frequencies can be assigned to what is considered to be the interfering source.

6. Method as claimed in claim 1-3, c h a r a c t e r i z e d in the further following steps
for a defined time and for every training sequence, calculate the proportion, percent of interference of all samples that the training sequence had the strongest correlation, and visualising the percent of interference for all training sequences.

7. Method as claimed in claim 6, c h a r a c t e r i z e d in, for every sample, visualise (Fig 5) over time which training sequence that had the strongest correlation.

8. A method according to claim 4, to eliminate false interference source candidates (CA1,CA2,…), where said candidate cells contain different sets of frequencies (f_a, f_b, f_c; f_x, f_y, f_z; f_p, f_q ,Fig 7),
c h a r a c t e r i z e d in
removing all cells not using the frequency set whose offset corresponds to the offset (to) of the identified interferer.